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DESCRIPTION OF A NEW SPECIES OF PHENACOMYS FROM OREGON

BY A. BRAZIER HOWELL

[Plate 7]

Among some skins with uncleaned skulls, which were kindly loaned me for study by Stanley G. Jewett, was a *Phenacomys* which appeared to belong to a new species; and after the skull was cleaned all doubts of this were removed. Mr. Jewett has generously given me permission to describe this new form, which may be known as

***Phenacomys silvicolus* new species**

FOREST LEMING-MOUSE

Type.—Young adult female; No. 1214, Coll. of S. G. Jewett; 5 miles southeast of Tillamook, Tillamook County, Oregon; October 25, 1916; collected by Peter P. Walker; Orig. No. 40, Coll. of Alex. Walker.

Diagnosis.—Externally, closest to *Phenacomys longicaudus*, with a general appearance and tail very similar to that form; but darker and with smaller ears. The skull is longer than that of *longicaudus* of corresponding age, with narrower braincase having temporal ridges, with much heavier molariform teeth of a different pattern, and with pterygoid plates which flare anteriorly on their outer edges.

Description.—The hairs on the back of *silvicolus* are fine and long, some of them reaching a length of 15 mm. The bases are plumbeous, and the distal ends sayal brown, sparsely tipped with black. The coloration is slightly paler on the sides, and rather abruptly white on the ventral surface, the hairs of the latter area having plumbeous bases. The feet are soiled whitish with long toes and claws as in *longicaudus*; and the tail is covered with long, blackish hairs as in that species. The ears are small and do not project beyond the body hairs.

The skull is quite different from those of *P. orophilus*, *P. albipes*, or *P. longicaudus*. In comparison with the last-named species, which is evidently its closest relative, the skull of *silvicolus* exhibits the following characters. The braincase is flattish; long and comparatively narrow. The nasals are somewhat constricted at a point posterior to the middle, with the ascending extremities of the premaxillæ narrower. The zygomatic processes of the maxillæ slope rather evenly from the rostrum, and the zygomatic width is greatest in the anterior region of the jugals, with the latter converging somewhat posteriorly. The temporal ridges are very pronounced and are parallel in their posterior halves, thence joining the vertical ridges of the squamosals. The postorbital processes of the squamosals are poorly developed and are not "peg-like." The incisive foramina are large and are not in the least constricted posteriorly. There is a distinct "hump" at the juncture of the basi-occipital with the basi-sphenoid,

and the anterior portion of the latter is very narrow, forming considerable vacuities between it and the pterygoids. The pterygoid plates are unusual in that they gradually form lateral shelves anteriorly, and the interpterygoid fossa is wide, with the palatal pits more pronounced, although smaller, than in *longicaudus*. The auditory bullæ are slightly larger.

The molariform teeth are even heavier and broader than in *orophilus*, with the tooth row considerably longer than in *longicaudus*. The teeth are further characterized by the wide, sweeping lines of the enamel folds, and by the tendency of all the molar angles in the lower jaw to remain open. This species of *Phenacomys* is unique in having not more than three closed triangles in $\overline{M1}$. There are no closed triangles in $\overline{M2}$, and the antero-external loop is wide open. $\overline{M3}$ is simple and somewhat as in *longicaudus*. The upper molariform teeth show no notable peculiarities in the enamel pattern.

Measurements.—Type: Total length, 191¹ mm.; tail, 81¹; foot, 32¹. Length of skull, 25.1; zygomatic width, 14.4; interorbital width, 3.4; mastoid width, 11.8; upper molar row, 5.9.

Remarks.—The type specimen was found dead on a log on a ridge which is covered with first-growth Douglas fir (*Pseudotsuga taxifolia*). The writer spent several weeks in this region during September, 1920, and, with the generous coöperation of P. P. Walker and A. Walker, to both of whom he is deeply indebted, made a search for this animal. All convenient patches of second-growth fir were searched for nests, and many hundreds of traps set without result. Virgin timber was also examined, but with very little hope of success, for the trees are so large, and so festooned with long moss, that each might contain a score of hidden nests.

P. longicaudus is the only species of the genus that is definitely known to lead an arboreal life. Also, it was previously the only known form with a long, *hairy* tail. Our knowledge of the habits and characters of other families (e.g., Sciuridæ) gives us grounds for presuming that hairiness of tail may be considerably increased by a life in the trees. The tail of *silvicolus* is just as hairy as is that of *longicaudus*, and, in addition, both have toes and claws that are unusually long and well fitted for climbing. Hence, it is a logical conclusion that one species is just as arboreal as the other.

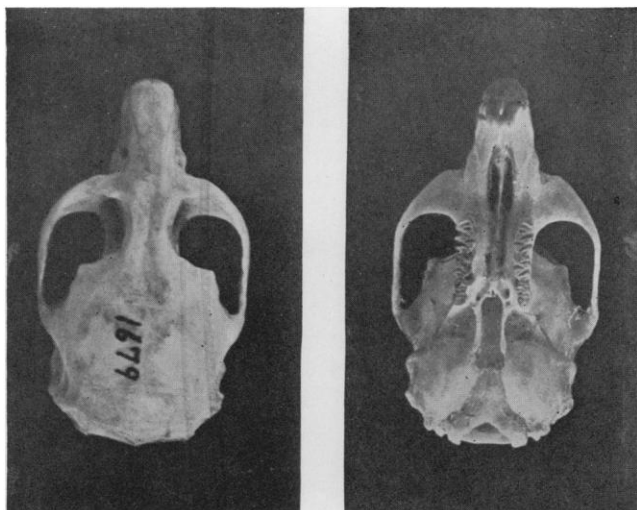
Mr. Jewett informs me that *longicaudus* has been taken as far north as the Columbia River, so this form probably occurs in scattered colonies throughout the coast district of Oregon. The type locality of *silvicolus* is typical of all the humid, timbered area of that state, and one may presume that the new species is rather widely distributed.

¹ Collector's measurements; that of the foot is obviously an error and should be 22 mm.

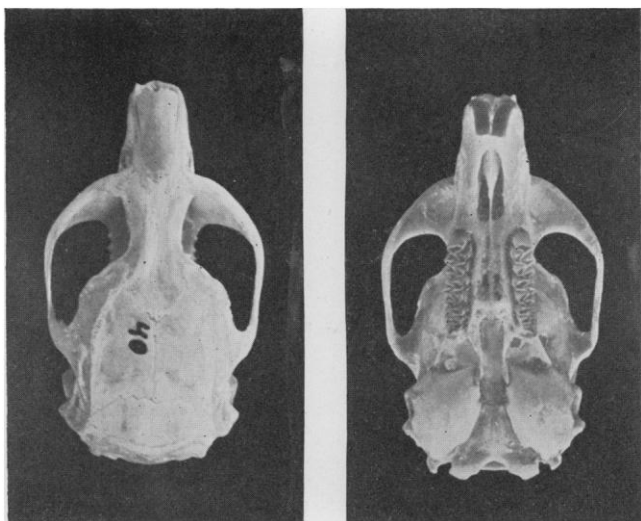
Therefore, the two species may well occur together, for although both are undoubtedly arboreal, they may occupy different ecological niches, and have different food habits. It is interesting to note that *P. albipes* is found on the floor of these humid forests, its association seeming to be definitely riparian, and thus there are three distinct species of this genus inhabiting the same faunal area—a condition that is, so far as known, unique.

The relationship of *silvicolus* is not clearly indicated. As mentioned, the external appearance places it with *longicaudus*, and it is probably closest to that form, but its skull does not resemble skulls of *longicaudus* to any greater degree than it does skulls of *albipes*, and the apparent similarity may be due solely to the influences of parallel habits acting upon two separate stocks.

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SKULL OF *Phenacomys longicaudus*. $\times 2$



SKULL OF *Phenacomys silvicolus*. TYPE. $\times 2$

(Howell: New *Phenacomys* from Oregon.)